

Atty. Dkt. No. 10015967-1**CLAIM AMENDMENTS**

*This listing of claims will replace all prior versions, and listings, of claims in the application.*

- 1        1. (Original) A method for adaptation of a computer system, network or subsystem comprising developing a design for the system and performing an automated loop comprising implementing the design; analyzing operation of the design after said implementing; and modifying the design based on results of said analyzing.
- 1        2. (Original) The method according to claim 1, further comprising forming models of components of the system and applying results of said analyzing to the models.
- 1        3. (Original) The method according to claim 2, wherein said applying results of said analyzing to the models indicates utilization of a component of the system.
- 1        4. (Original) The method according to claim 3, wherein said modifying the design is performed in response to the utilization.
- 1        5. (Original) The method according to claim 4, wherein said modifying is also performed in response to a desired headroom level.
- 1        6. (Original) The method according to claim 5, wherein said desired headroom level provides that components of the system operate at less than 100% utilization.
- 1        7. (Currently Amended) The method according to claim [[7]]5, wherein said desired headroom level provides that components of the system operate at more than 100% utilization.
- 1        8. (Original) The method according to claim 1, wherein said implementing the design comprises forming a plan and then implementing the plan.

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- 1       9. (Original) The method according to claim 1, wherein said system  
2       comprises a CPU farm.

1       10. (Original) The method according to claim 1, wherein said system  
2       comprises a data caching system.

1       11. (Original) The method according to claim 1, wherein said system  
2       comprises a database system.

1       12. (Original) The method according to claim 11, wherein said modifying  
2       comprises modifying indices of the database system.

1       13. (Original) A method for adaptation of a data storage system, comprising  
2       developing a design for the data storage system and performing an automated  
3       loop comprising implementing the design; analyzing operation of the design  
4       after said implementing; and modifying the design based on results of said  
5       analyzing.

1       14. (Original) The method according to claim 13, further comprising forming  
2       models of components of the data storage system and applying results of said  
3       analyzing to the models.

1       15. (Original) The method according to claim 14, wherein said applying  
2       results of said analyzing to the models indicates utilization of a component of  
3       the data storage system.

1       16. (Original) The method according to claim 15, wherein said modifying the  
2       design is performed in response to the utilization.

1       17. (Original) The method according to claim 16, wherein said modifying is  
2       also performed in response to a desired headroom level.

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- 1        18. (Original) The method according to claim 17, wherein said desired  
2              headroom level provides that components of the data storage system operate at  
3              less than 100% utilization.
  
- 1        19. (Original) The method according to claim 17, wherein said desired  
2              headroom level provides that components of the data storage system operate at  
3              more than 100% utilization.
  
- 1        20. (Original) The method according to claim 13, wherein said implementing  
2              the design comprises forming a plan for migrating data and then implementing  
3              the plan.
  
- 1        21. (Original) The method according to claim 20, wherein said forming a  
2              plan comprises forming a directed multigraph and computing a maximum  
3              general matching.
  
- 1        22. (Original) The method according to claim 13, wherein said analyzing  
2              comprises forming a trace of storage system events and forming a workload  
3              characterization based on the trace.
  
- 1        23. (Original) The method according to claim 22, wherein said workload  
2              characterization comprises a number of parameter values that summarize the  
3              trace.
  
- 1        24. (Original) The method according to claim 23, further comprising forming  
2              models of components of the data storage system and applying said workload  
3              characterization to the models.
  
- 1        25. (Original) A method for adaptation of a data storage system, comprising:  
2                  developing a design for the data storage system;  
3                  implementing the design;  
4                  forming a trace of storage system events;  
5                  forming workload characterization from the trace;

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6 applying the workload characterization to models of components of the  
7 data storage system, wherein said applying indicates utilization of a  
8 component of the data storage system; and

9 modifying the design in response to the utilization indicated by said  
10 analyzing.

1 26. (Original) The method according to claim 25, wherein said modifying  
2 results in a modified design and further comprising implementing the modified  
3 design.

1 27. (Original) The method according to claim 26, wherein said modifying  
2 comprises forming a device tree data structure that is representative of the  
3 storage system.

1 28. (Original) The method according to claim 27, wherein said modifying  
2 comprises reassigning data stores to components of the data storage system.

1 29. (Original) The method according to claim 28, wherein said implementing  
2 the modified design comprises forming a plan for migrating data and then  
3 implementing the plan.

1 30. (Original) The method according to claim 29, wherein said forming a  
2 plan comprises forming a directed multigraph and computing a maximum  
3 general matching.

1 31. (Original) The method according to claim 25, wherein said modifying is  
2 also performed in response to a desired headroom level.

1 32. (Original) The method according to claim 31, wherein said desired  
2 headroom level provides that components of the data storage system operate at  
3 less than 100% utilization.

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33. (Original) The method according to claim 31, wherein said desired headroom level provides that components of the data storage system operate at more than 100% utilization.